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SHARP 25LC156 SERVICE MANUAL

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SHARP SERVICE MANUAL

S26o525LC156/

COLOR TELEVISION
SIGMA 9100 CHASSIS

Chassis No. 25L3

MODEL 25LC156

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original conditions and only parts identical to those specified should be used.

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SHARP ELECTRONICS CORPORATION

Executive Office:	Sharp Plaza,	Mahwah,	New Jersey	07430	(201) 529-8200
Regional Offices & Distribution Centers:	Sharp Plaza,	Mahwah,	New Jersey	07430	(201) 529-8200
	20600 S. Alameda St.,	Carson,	California	90810	(213) 637-9488
	430 E. Plainfield Rd.,	Countryside,	Illinois	60525	(312) 482-9292
	U.S. Subsidiary of Sharp Corporation Osaka, Japan				
Parts Centers:	P.O. Box 405	Mahwah,	New Jersey	07430	(201) 529-8200
	20600 S. Alameda St.,	Carson,	California	90810	(213) 637-9488
	430 E. Plainfield Rd.,	Countryside	Illinois	60525	(312) 482-9292

INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdriver or TV alignment tools.
(2) Before performing adjustment, TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The entire receiver is protected by a 4.0A fuse (F2701), mounted on PWB-C, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, or +B system, the X-Radiation protector circuit must be tested for proper operation as follows:

1. Apply 120V AC using a variable transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Check the voltage of test point TP603 (It's voltage should be about 17.7V DC.)
4. Connect the cathode of diode D2503 with TP603 through a 6.8 k ohm, 1/2 w resistor. When these points are connected, the operation of horizontal oscillator stops.
5. To start operation, remove the resistor and touch the TP601 to chassis ground with a short clip lead. (Remove short clip lead as soon as the set operates again with a normal picture.) Connect TP2601 to chassis ground and see that the operation of the horizontal oscillator stops.
6. If the operation of the horizontal osc. does not stop in steps 4 and 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter to the CRT anode.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with strong air signal or a properly tuned test signal.
3. Set SW851 on PWB-B to "off" (center) position. Note that loss of luminance will occur.
4. Rotate Screen control (on T2602) to minimum (CCW) end of its rotation.
5. The reading should be approximately 28kV at zero beam.

If a correct reading cannot be obtained, check circuitry for malfunctioning components. Upon completion of voltage check, readjust screen control for proper operation and set SW851 to "on" position.

INSTALLATION AND SERVICE INSTRUCTIONS (Continued)

Field Adjustment

RF. AGC. Adjustment

(1) Turn channel selector to a local station.
(2) Place AFT switch in "off" position.
(3) Turn RF AGC control (R212) fully clockwise until snow and/or noise appear in picture, then slowly turn control counter-clockwise until snow and/or noise disappear.
(4) Check all other channels.

Sound

(1) Turn channel selector to a local station.
(2) Place AFT switch in "off" position.
(3) Adjust volume control to mid-position.
(4) Adjust sound det. coil (L301) to obtain good clear sound.

Sub-Bright Control

(1) Turn channel selector to a local station.
(2) Turn picture control (R440) fully clockwise and set bright control (R435) at the center position.
(3) Turn sub-bright control (R436) to obtain normal brightness of the picture.

Vertical Size and Linearity Adjustment

(1) Turn channel selector to a local station.
(2) Check brightness and picture controls for a normal picture.
(3) Adjust vertical size control (R508) for approximately one-half inch over-scan at top and bottom of picture screen, and linearity control (R507) for the best vertical linearity.

Focus Adjustment

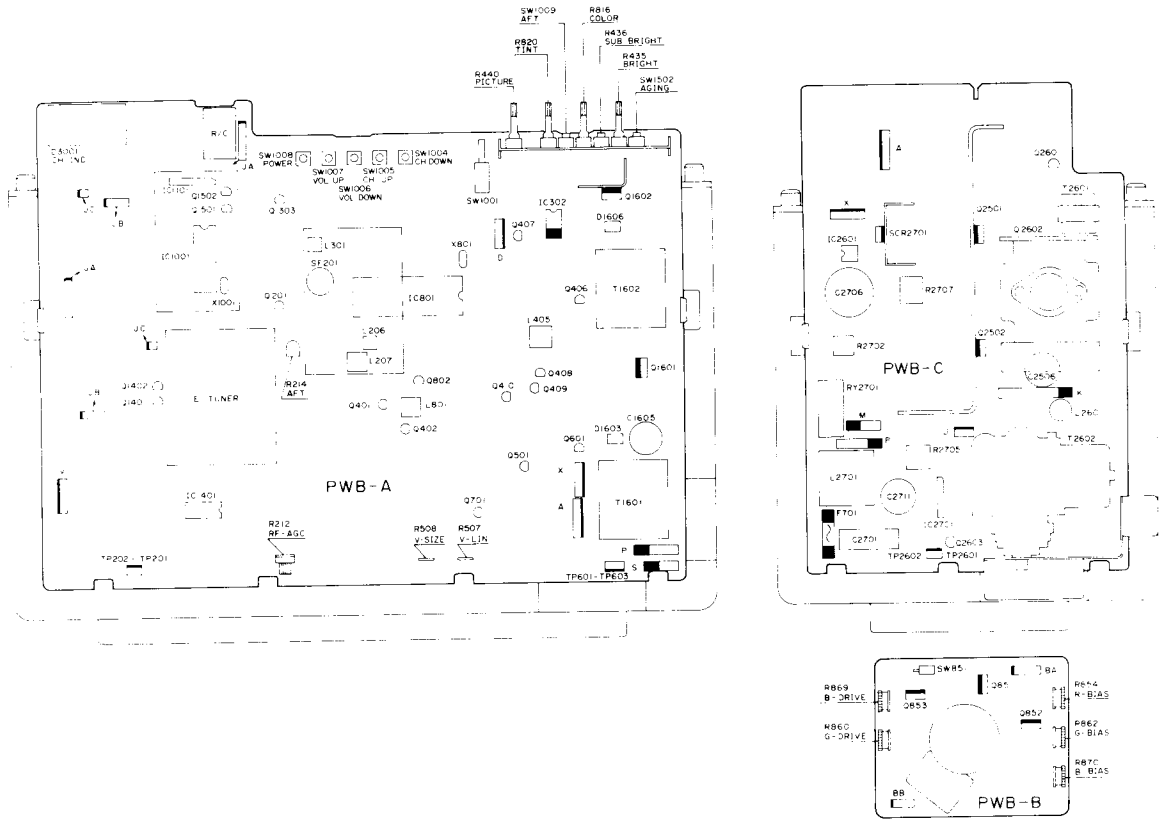
(1) Turn channel selector to a local station.
(2) Set brightness and picture control at a normal viewing level.
(3) Adjust focus control (part of T2602) for sharp scanning lines and/or sharp picture.

NOTE 1: All field adjustments mentioned can be performed without test equipment.

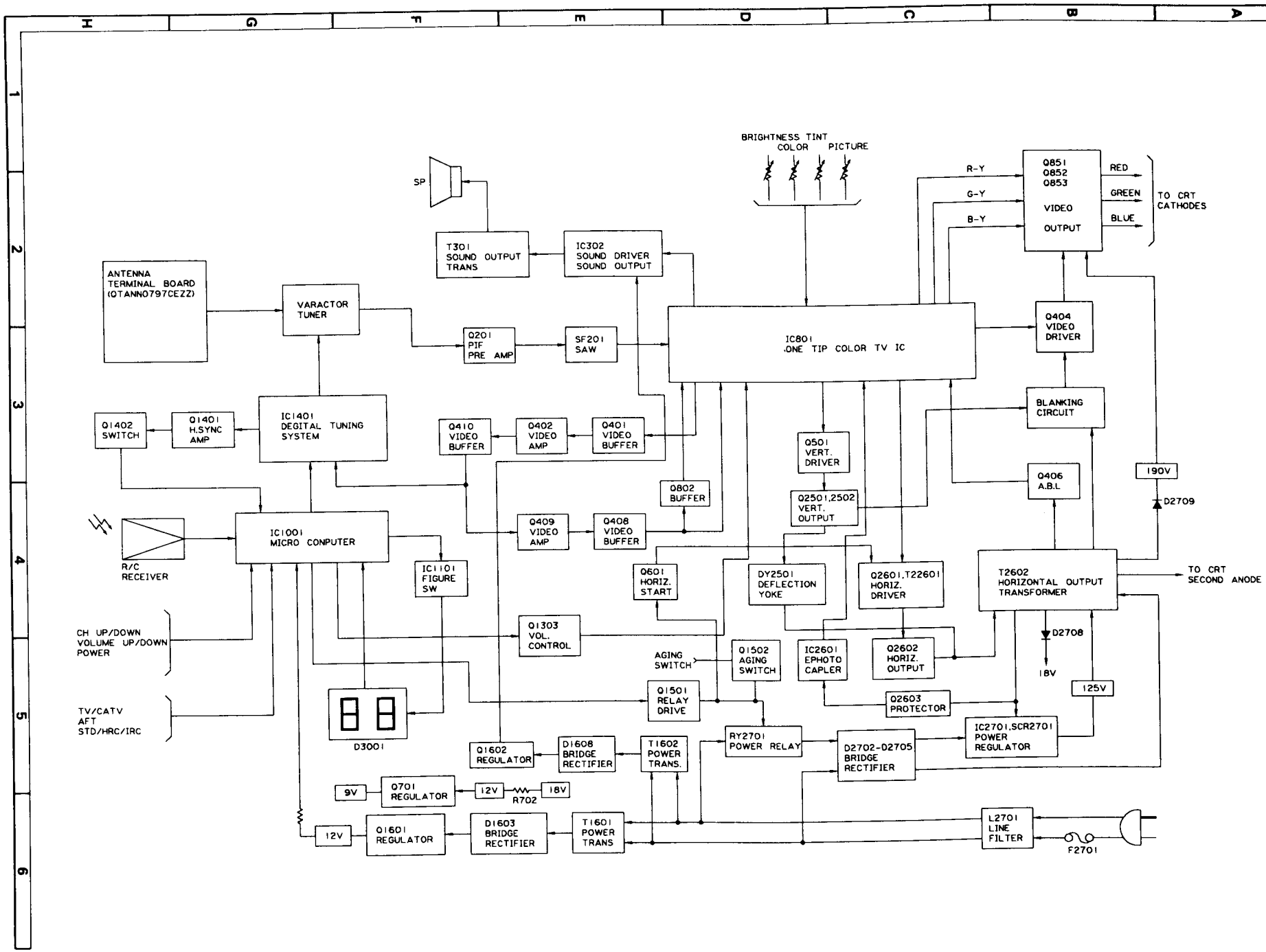
NOTE 2: The AFT SW is employed for the following purpose. When connecting a VCR or video game equipment to the antenna terminals of this TV and when the RF output frequency of these video equipments deviates from the normal TV channel frequency, this freqency deviation can be corrected by setting the AFT SW to the "ON" position. Usually the AFT SW should be set the "ON" position.

NOTE 3: After servising the set, check that the aging SW1502 is set at "off" position.
This aging SW is to be used only for the factory inspection: at "on" position, it won't allow the set to be turned off.

CHASSIS LAYOUT



BLOCK DIAGRAM



REPLACEMENT PARTS LIST

SAFETY NOTE — Components marked with a (⚠) have special characteristics important to safety. Before replacing any these components, read cafully the SAFETY NOTICE on page 3 of the Service Manual. Components marked with an (▲) are related to X-Ray Protection circuit.
HOW TO ORDER REPLACEMENT PARTS — To have your order filled promptly and correctly, plase furnish the following information:
1. MODEL NO. 2. PART NO. 3. DESCRIPTION

Contact your nearest SHARP Parts Distributor to order.
For location of SHARP Parts Distributor, Please call Toll-Free; 800-447-4700 (In Hawaii and Alaska, please contact local SHARP dealer).

★ MARK: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description
PICTURE TUBE			
▲⚠ V101	VBA63ABG25X-S	M	CRT
	or		
	VBA63AAM08X-S	M	
▲⚠ DY601	RCiLH0029MEZZ	M	Deflection Yoke
⚠ L702	RCiLG0007MEZZ	M	ADG Coil
PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)			
PWB-A	DUNTK4393DE00	—	Mother Unit
PWB-B	DUNTK4294DE03	—	CRT Unit
PWB-C	DUNTK4394DE00	—	Power Unit
PWB-A DUNTK4393DE00			
TUNER AND ASSEMBLY UNIT			
NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUY NOT INDEPENDENTLY.			
⚠	VTUVTS-7UKPY/	J	110 Channel Varactor Tuner
D3001	RUNTK0111CEZZ	J	Channel Indication Unit
INTEGRATED CIRCUITS			
IC302	RH-iX0054CEZZ	J	
▲⚠ IC801	RH-iX0600CEZZ	J	
IC1001	RH-iX0692CEZZ	J	
IC1101	RH-iX0260CEZZ	J	
IC1401	VHiUPC1486C-1	J	
TRANSISTORS			
Q201	VS2SC1906//1E	J	2SC1906
Q401, 402, 403, 410, 802, 1303, 1401	VS2SC1815YW-1	J	2SC1815(Y)
Q406	VS2SC1815YW-1	J	2SC1815(Y)
	or		
	VS2SC454-C/1E	J	2SC454(C)
Q407	VS2SA854-Q/1E	J	2SC854(Q)
	or		
	VS2SA562Tö/-1	J	2SA562T(ö)
Q408, 409, 601, 1402	VS2SA1015Y/1E	J	2SA1015(Y)
Q501	VS2SC1959Y/1E	J	2SC1959(Y)
Q701	VS2SC2236Y/-1	J	2SC2236(Y)
Q1501, 1502	VS2SC1815GW-1	J	2SC1815(GR)
Q1601, 1602	VS2SC1983//-2	J	2SC1983
DIODES			
D403, 405, 406, 407, 408, ▲⚠ 603, 608, 801, 802, 1001, 1003, 1005, 1006, 1009, 1010, 1013, 1014, 1028, 1030, 1031, 1101 | 1108, 1301, 1305, 1306, 1404, 1405, 1601, 1604	VHD1SS119//-1	J	1SS119
D404	VHD1N34A///-1	J	1N34A
D601, 606	RH-DX0110CEZZ	J	S5277G
D602, 1032	RH-EX0116GEZZ	J	Zener Diode RD6.8EB2
▲⚠ D604	RH-EX0112CEZZ	J	Zener Diode
D605	RH-DX0101CEZZ	J	
D607	RH-EX0200CEZZ	J	Zener Diode
D702	RH-EX0023GEZZ	J	Zener Diode
D1002	RH-EX0103CEZZ	J	Zener Diode

Ref. No.	Part No.	*	Description
D1015 – 1018	RH-EX0217CEZZ	J	Zener Diode RD15EB
D1304, 1406	RH-EX0131CEZZ	J	Zener Diode RD5.1E
D1401	RH-DX0130CEZZ	J	
D1402	RH-EX0038CEZZ	J	Zener Diode
D1602	RH-EX0047CEZZ	J	Zener Diode RD12EB
D1603, 1606	RH-DX0200CEZZ	J	
D1605	RH-EX0021TAZZ	J	Zener Diode
PACKAGED CIRCUITS			
X801	RCRSB0005CEZZ	J	Crystal — 3.58MHz
X1001	RCRSB0013CEZZ	J	Crystal — 4.5MHz
D1019	RMPTJ0028CEZZ	J	15V x 7 Zener Diode
RR1001	RMPTC0128CEZZ	J	22K x 7 Resistor
RR1002, 1003	RMPTC0135CEZZ	J	22K x 4 Resistor
COILS			
L202	VP-MK2R2K0000	J	2.2μH
L203	VP-RFR47K0000	J	0.47μH
L204	VP-RFR56K0000	J	0.56μH
L205	VP-RF180K0000	J	18μH
L206	RCiLi0448CEZZ	J	PIF Detection
L207	RCiLi0392CEZZ	J	AFT
L301	RCiLi0374CEZZ	J	Sound Detection
L401	RCiLP0094CEZZ	J	180MHz Band Pass Filter
L402, 403, 1001, 1101, 1501	VP-MK100K0000	J	10μH
L405	RCiLZ0372CEZZ	J	Delay Line
L406	VP-ôF820K0000	J	82μH
L601	VP-MK270K0000	J	27μH
L801	RCiLV0132CEZZ	J	Band Pass Filter
L802	VP-MK220K0000	J	22μH
L1401	VP-RF100K0000	J	10μH
CERAMIC FILTERS			
CF301	RFiLC0001CEZZ	J	Ceramic Filter Sound Take-off
CF401	RFiLC0013CEZZ	J	Ceramic Filter 4.5MHz Trap
CF601	RFiLA0005CEZZ	J	Ceramic Filter 32FH Oscillation
SF201	RFiLC0042CEZZ	J	Surface Acoustic Wave Filter
TRANSFORMERS			
⚠ T1601	RTRNP0342CEZZ	J	Power Transformers
⚠ T1602	RTRNP0339CEZZ	J	Power Transformers

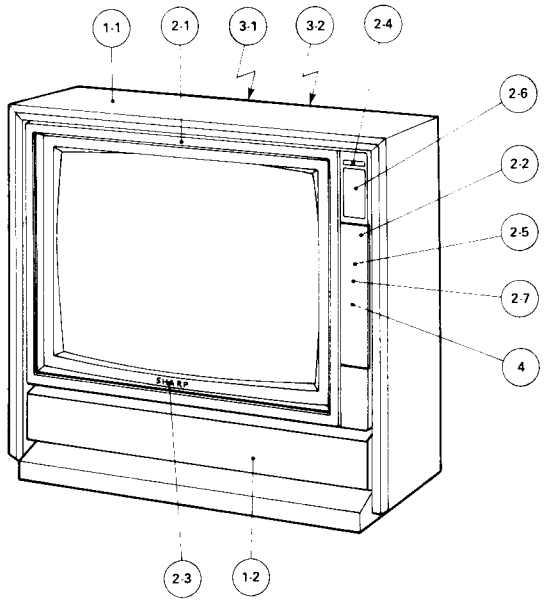
Ref. No.	Part No.	*	Description		
CONTROLS					
R212	RVR-B4568CEZZ	J	10K(B)		RF AGC
R214	RVR-B5269CEZZ	J	100K(B)		AFT
R435	RVR-B5297CEZZ	J	10K(B)		Brightness
436, 440, 816, 820					Sub Brightness, Picture, Color, Tint
R507	RVR-M7202TAZZ	J	2K(B)		Vertical Linearity
R508	RVR-M7199TAZZ	J	500(B)		Vertical Size
CAPACITORS					
C212, 324, 327, 420, 701	VCEAAA1CW337M	J	330	16V	Electrolytic
C326, 433, 702, 703, 704, 1009, 1102, 1405	VCEAAA1CW477M	J	470	16V	Electrolytic
C304	VCEAAA1CW227M	J	220	16V	Electrolytic
C331, 602	VCE9AA1HW105M	J	1	50V	Electrolytic (NP)
C427	VCCSPA2HL470K	J	47p	500V	Ceramic
C432	VCE9AA1CW476M	J	47	16V	Electrolytic (NP)
C503	VCSATA1VE225K	J	2.2	35V	Tantalum
C605	VCSATA1VE474K	J	0.47	35V	Tantalum
C613	VCCSPA2HL101K	J	100p	500V	Ceramic
C808	VCE9AA1HW225M	J	2.2	50V	Electrolytic
C1005	VCEAAA1AW107M	J	100	10V	Electrolytic
C1504, 1615	VCEAAA1CW108M	J	1000	16V	Electrolytic
C1605, 1612	VCEAAH1VW108M	J	1000	35V	Electrolytic
RESISTORS					
▲⚠ R609	VRD-RA2BE123J	J	12K ohm	1/8W	Carbon
▲⚠ R610	VRD-RA2BE822J	J	8.2K ohm	1/8W	Carbon
⚠ R702	VRS-VV3LB220J	J	22 ohm	3W	Oxide Film
⚠ R1104	VRS-VV3AB221J	J	220 ohm	1W	Oxide Film
⚠ R1402	VRS-VV3DB273J	J	27K ohm	2W	Oxide Film
⚠ R1403	VRS-VV3DB223J	J	22K ohm	2W	Oxide Film
⚠ R1404	VRS-VV3AB121J	J	120 ohm	1W	Oxide Film
R1601	VRS-VV3DB101J	J	100 ohm	2W	Oxide Film

Ref. No.	Part No.	*	Description
SWITCHES			
SW1001	QSW-P0264CEZZ	J	TV/CATV Switch
SW1004, 1005, 1006, 1007, 1008	QSW-K0025CEZZ	J	Channel Down Switch, Channel Up Switch, Volume Down Switch, Volume Up Switch, Power Switch
SW1009, 1502	RVR-B5297CEZZ	J	AFT Switch, Aging Switch
MISCELLANEOUS PARTS			
FB301, 601	RBLN-0036CEZZ	J	Ferrit Bead
	RRMCU0153CEZZ	J	Remote Control Receiver
PWB-B DUNTK4294DE03			
TRANSISTORS			
Q851, 852, 853	VS2SC1514//-1	J	2SC1514
COIL			
L851	VP-LK271K0000	J	270μH
CONTROLS			
R854, 862, 870	RVR-B4733CEZZ	J	10K(B) Red Bias, Green Bias, Blue Bias
R860, 869	RVR-B4726CEZZ	J	200(B) Green Drive, Blue Drive
CAPACITOR			
C856	RC-KZ007JCEZZ	J	0.01 1.4kV Ceramic
RESISTORS			
⚠ R856, ⚠ 863, ⚠ 866	VRS-VV3DB153J	J	15k 2W Oxide Film
SWITCH			
SW851	QSW-B0015CEZZ	J	Service Switch (Cut off)
MISCELLANEOUS PART			
S851	QSöCV0913CEZZ	J	Socket – CRT

Ref. No.	Part No.	*	Description
PWB-C DUNTK4394DE00			
INTEGRATED CIRCUITS			
▲⚠ IC2601	RH-FX0003CEZZ	J	
▲⚠ IC2701	RH-iZ0027CEZZ	J	
TRANSISTORS			
Q2501, 2502	VS2SC3299Y/-1	J	2SC3299(Y)
	or		
	VS2SD1267-P1E	J	2SD1267
Q2601	VS2SC2655Y/-1	J	2SC2655(Y)
⚠ Q2602	VS2SD871///-1	J	2SD871
Q2603	VS2SC1815GW-1	J	2SC1815(GR)
DIODES			
D2501, 2502	RH-DX0123CEZZ	J	TVR1D
⚠ D2503	RH-DX0105TAZZ	J	TVR1J
▲⚠ D2601, 2701	VHD1SS119//-1	J	1SS119
D2602, 2707	RH-DX0126CEZZ	J	
⚠ D2702, ⚠ 2703, ⚠ 2704, ⚠ 2705	RH-DX0154CEZZ	J	1S1887A
⚠ D2706	RH-EX0084CEZZ	J	05Z72, Zener Diode
⚠ D2708	RH-DX0202CEZZ	J	
⚠ D2709	RH-DX0086TAZZ	J	RH1S
▲⚠ SCR2701	VHS3S4M//LB1E	J	Silicon Controlled Rectifier
	or		
	VHSCR3AMZ8LB1	J	
PACKAGED CIRCUIT			
⚠ POR2701	RMPTP0025CEZZ	J	Positive Coefficient Thermistor
COILS			
L2601	RCiLZ0213CEZZ	J	Linearity Coil
⚠ L2701	RCiLF0087CEZZ	J	Line Filter
	or		
	RCiLF0090CEZZ	J	
TRANSFORMERS			
⚠ T2601	RTRNZ0168CEZZ	J	Horizontal Drive
▲⚠ T2602	RTRNF1601CEZZ	J	Horizontal Output (W/Focus, Screen Controls and H.V. Rectifier)

Ref. No.	Part No.	*	Description		
CAPACITORS					
C2501	VCEAAA1EW107M	J	100	25V	Electrolytic
C2505	VCEAAA1JW107M	J	100	63V	Electrolytic
C2506	VCEAGA1VW108M	J	1000	35V	Electrolytic
C2507	VCKYPB2DE473P	J	0.047	200V	Ceramic
⚠ C2508	VCEAAA1JW476M	J	47	63V	Electrolytic
C2509	VCKYPB3AB102K	J	0.001	1KV	Ceramic
C2606	VCFPPD2DB564J	J	0.56	200V	Metalized Polypro
▲⚠ C2607	VCKYPB3SB501K	J	500P	3KV	Ceramic
▲⚠ C2608, ▲⚠ 2609, ▲⚠ 2610, ▲⚠ 2611, ▲⚠ 2612	VCFPPC3CA272J	J	0.0027	1.6KV	Metalized Polypro
C2613, 2703, 2704, 2705	VCKYPB2HE103P	J	0.01	500V	Ceramic
⚠ C2701	RC-QZ019DCEZZ	J	0.22	AC125V	UL Spec
⚠ C2702, 2717, 2720	RC-KZ0030CEZZ	J	0.0033	AC125	Ceramic
⚠ C2706	RC-EZ0141CEZZ	J	680	200V	Electrolytic
C2708	VCKYPA2HB332K	J	0.0033	500V	Ceramic
C2709, 2715, 2716	VCKYPA2HB471K	J	470p	500V	Ceramic
C2710	VCQPSC2DB473K	J	0.047	200V	Polypro Film
⚠ C2711	VCEAAH2CW107M	J	100	160V	Electrolytic
C2713	VCEAAA1EW337M	J	330	25V	Electrolytic
▲⚠ C2714	VCQYSH1HM103K	J	0.01	50V	Mylar
C2718	VCKYPA2HB152K	J	0.0015	500V	Ceramic
⚠ C2719	VCEAAA1EW108M	J	1000	25V	Electrolytic
⚠ C2721	VCEAAH2EW476M	J	47	250V	Electrolytic
RESISTORS					
⚠ R2403	VRS-SV2HC103J	J	10k	1/2W	Oxide Film
⚠ R2504	VRS-VV3DB331J	J	330	2W	Oxide Film
⚠ R2505	VRS-VV3LB331J	J	330	3W	Oxide Film
⚠ R2506	VRS-VV3DB120J	J	12	2W	Oxide Film
⚠ R2507, 2604	VRS-VV3LB120J	J	12	3W	Oxide Film
R2509	VRN-VV3AB1R8J	J	1.8	1W	Metal Coating
▲⚠ R2605	VRD-RA2BE393J	J	39k	1/8W	Carbon
▲⚠ R2606	VRD-RA2BE123J	J	12k	1/8W	Carbon
⚠ R2608	VRN-VV3DBR27J	J	0.27	2W	Oxide Film
▲⚠ R2609	VRD-RA2BE473J	J	47k	1/8W	Carbon
▲⚠ R2610	VRD-RA2BE683J	J	68k	1/8W	Carbon
⚠ R2701	VRC-UA2HG105K	J	1M	1/2W	Solid
⚠ R2702	RR-WZ0015CEZZ	J	2.2	10W	Cement
⚠ R2705	RR-WZ0022CEZZ	J	2.7	15W	Cement
⚠ R2706	VRS-SV2HC151J	J	150	1/2W	Oxide Film
⚠ R2707	VRW-KW3HC331K	J	330	5W	Cement
⚠ R2712, ⚠ 2713	VRN-VV3AB1R0J	J	1	1W	Metal Coating
⚠ R2714	VRN-VV3AB1R2J	J	1.2	1W	Metal Coating
⚠ R2715	VRS-SV2HC100J	J	10	1/2W	Oxide Film
RELAY					
⚠ RY2701	RRLYU0018CEZZ	J	Power Relay		

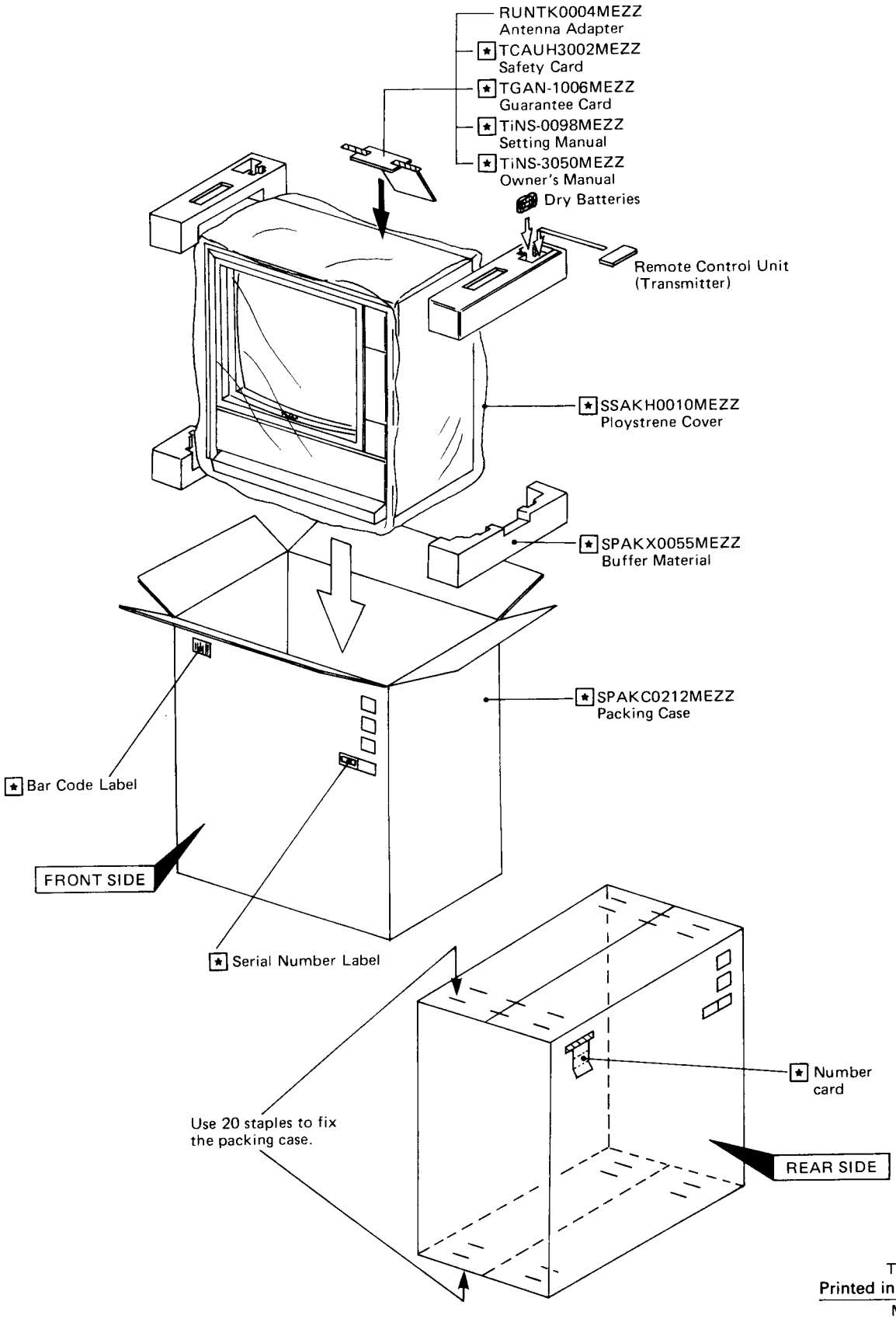
Ref. No.	Part No.	*	Description
MISCELLANEOUS PARTS			
⚠	QACCD3014CESA	J	AC Line Cord AC 120V, 60Hz
⚠ F2701	QFS-B4021GEZZ	J	Fuse — 4A 125V AC
	QFSHD1002CEZZ	J	Holder — F2701 (2 Pcs Used)
FB2501	RBLN-0020CEZZ	J	Ferrite Bead
FB2601	RBLN-0036CEZZ	J	Ferrite Bead
FB2602, 2701, 2702	RBLN-0010CEZZ	J	Ferrite Bead
TRANSFORMER			
⚠ T301	RTRNS0102CEZZ	J	Audio Output Transformer
MISCELLANEOUS PARTS			
	QTANN0797CEZZ	J	Antenna Terminal Board Ass'y
	VSP0010PB758A	M	Speaker 8 ohm
	RRMCG0346CESA	J	R/C Transmitter
	RUNTK0004MEZZ	M	Antenna Adaptor
CABINET PARTS			
1	CCAB-5038WEV0	M	Cabinet, Complete, Front
1-1	Not Available	—	Cabinet, Front
1-2	GNETC0010MESA	M	Speaker Net
2	CWAKP1012WEV0	M	Front Mask — Complete Assembly
2-1	Not Available	—	Front Mask
2-2	GDŌRF1043MEKA	M	Door
2-3	HBDGB1002MESA	M	Badge "SHARP"
2-4	HBDGD3006MESA	M	Badge "LINYTRON"
2-5	Hi NDM0158MESA	M	Indication Metal
2-6	Hi NDP1076MEKA	M	Indication Plate
2-7	PKAi-1080CEK8	J	Door Ruch
3	CFTAR5033WEV0	M	Rear Cover Assembly
3-1	Not Available	—	Rear Cover
3-2	GCŌVA1002MEKB	M	CRT Cover
4	JBTN-1310CEK0	J	Button — TV/CATV



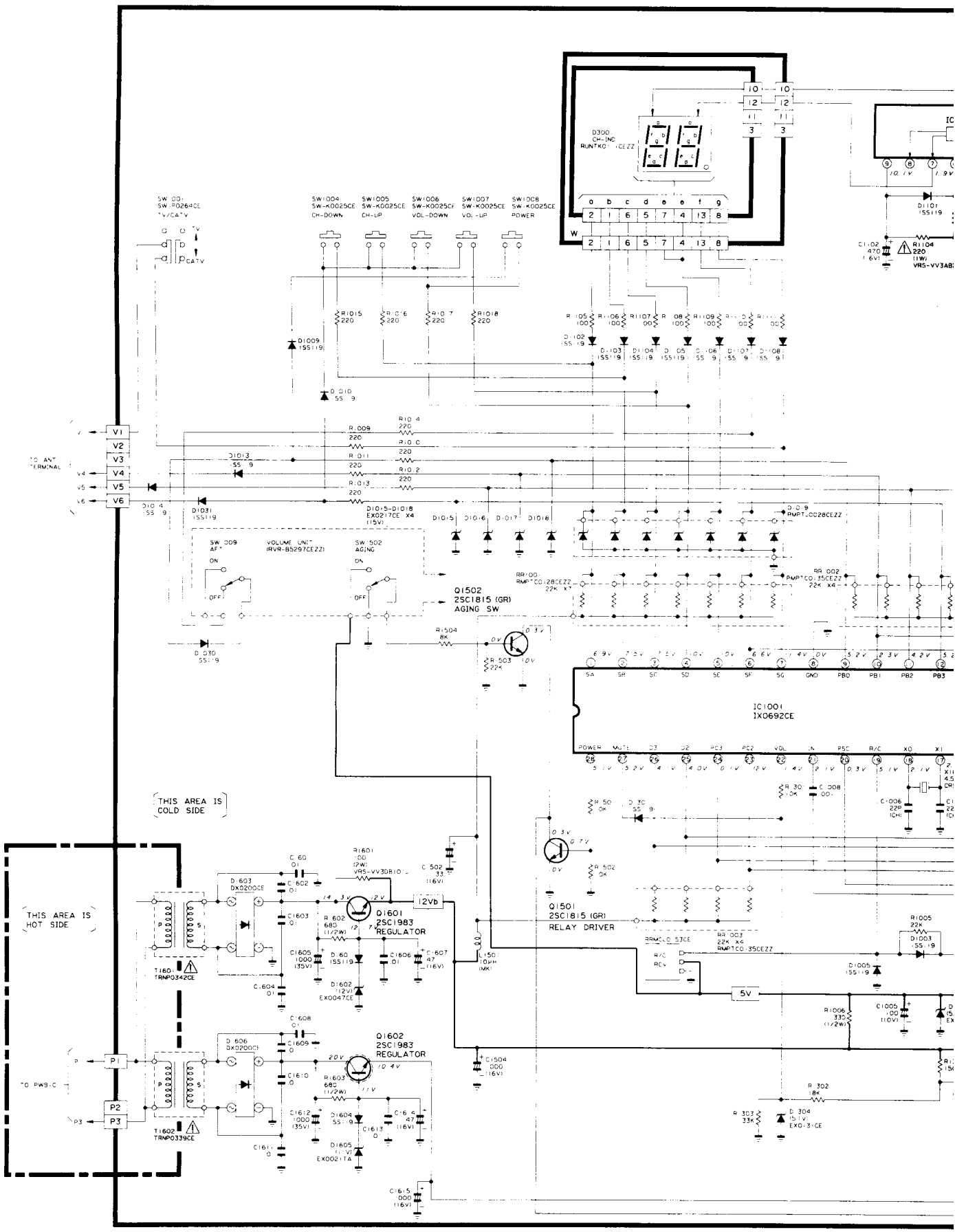
PACKING OF THE SET

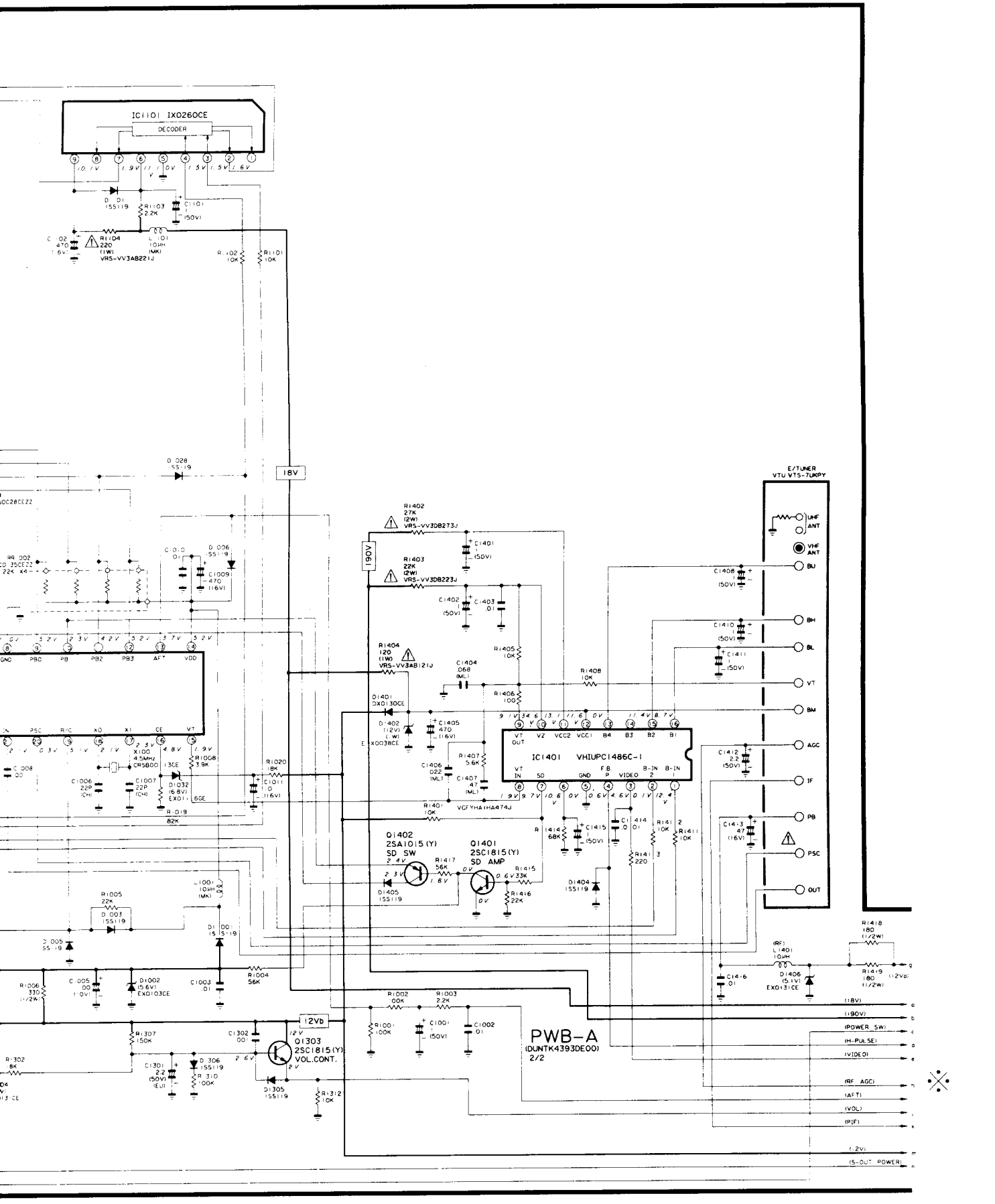
- **Setting positions of the knobs**

CATV Band	STD	Aging switch	OFF
Brightness control	Center click	Picture control	10/10
TV/CATV switch	TV	Color control	5/10
AFT switch	ON	Tint control	5/10

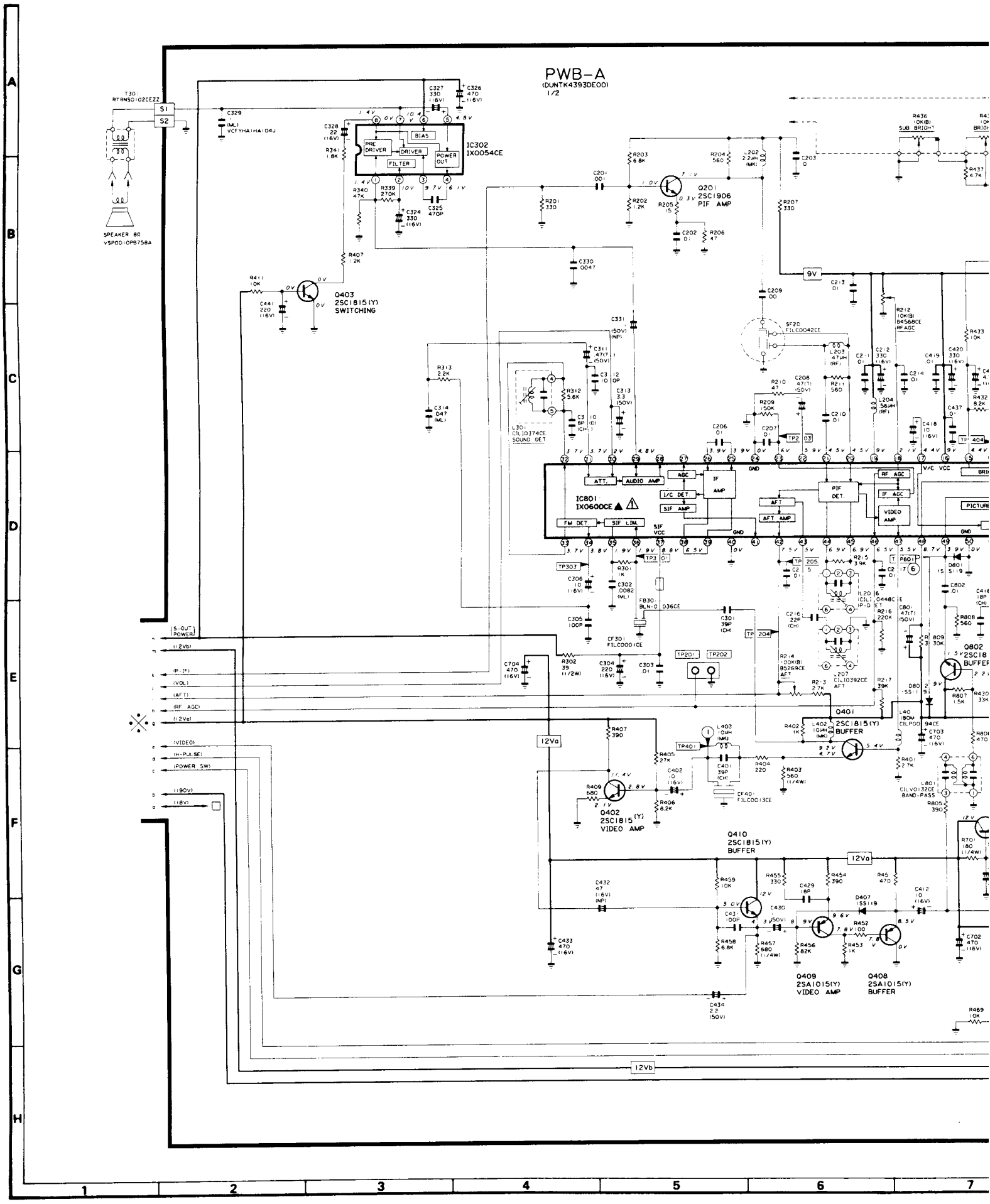


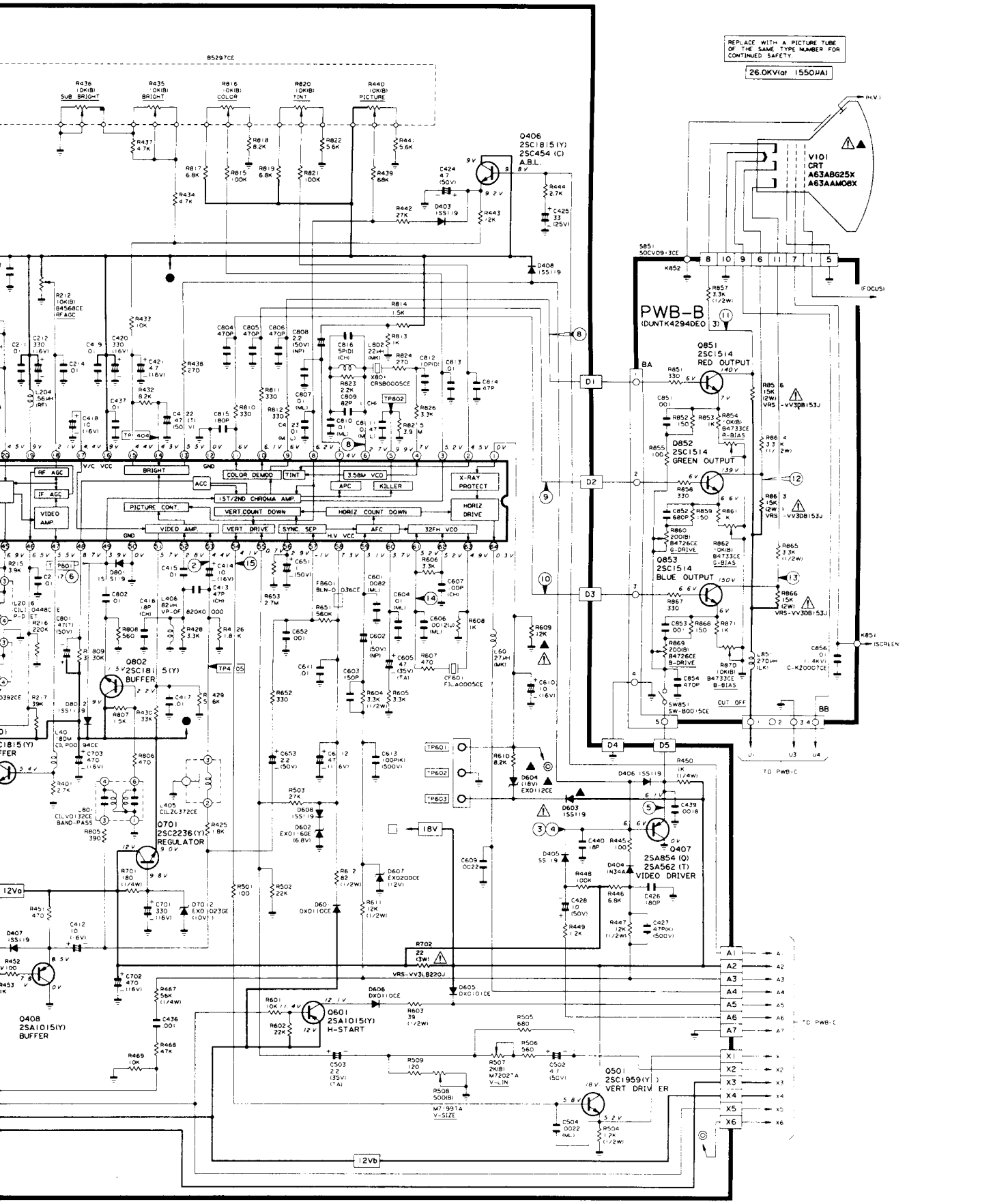
T5376-S
Printed in Japan
MW.KY


THIS AREA IS COLD SIDE
THIS AREA IS HOT SIDE
Q1502 2SC1815 (GR) AGING SW
Q1501 2SC1815 (GR) RELAY DRIVER
Q1601 2SC1983 REGULATOR
Q1602 2SC1983 REGULATOR
IC1001 1X0692CE
12Vb
5V
TO ANT TERMINAL
TO PWB-C
VOLUME UNIT (RVR-B5297CEZZ1)

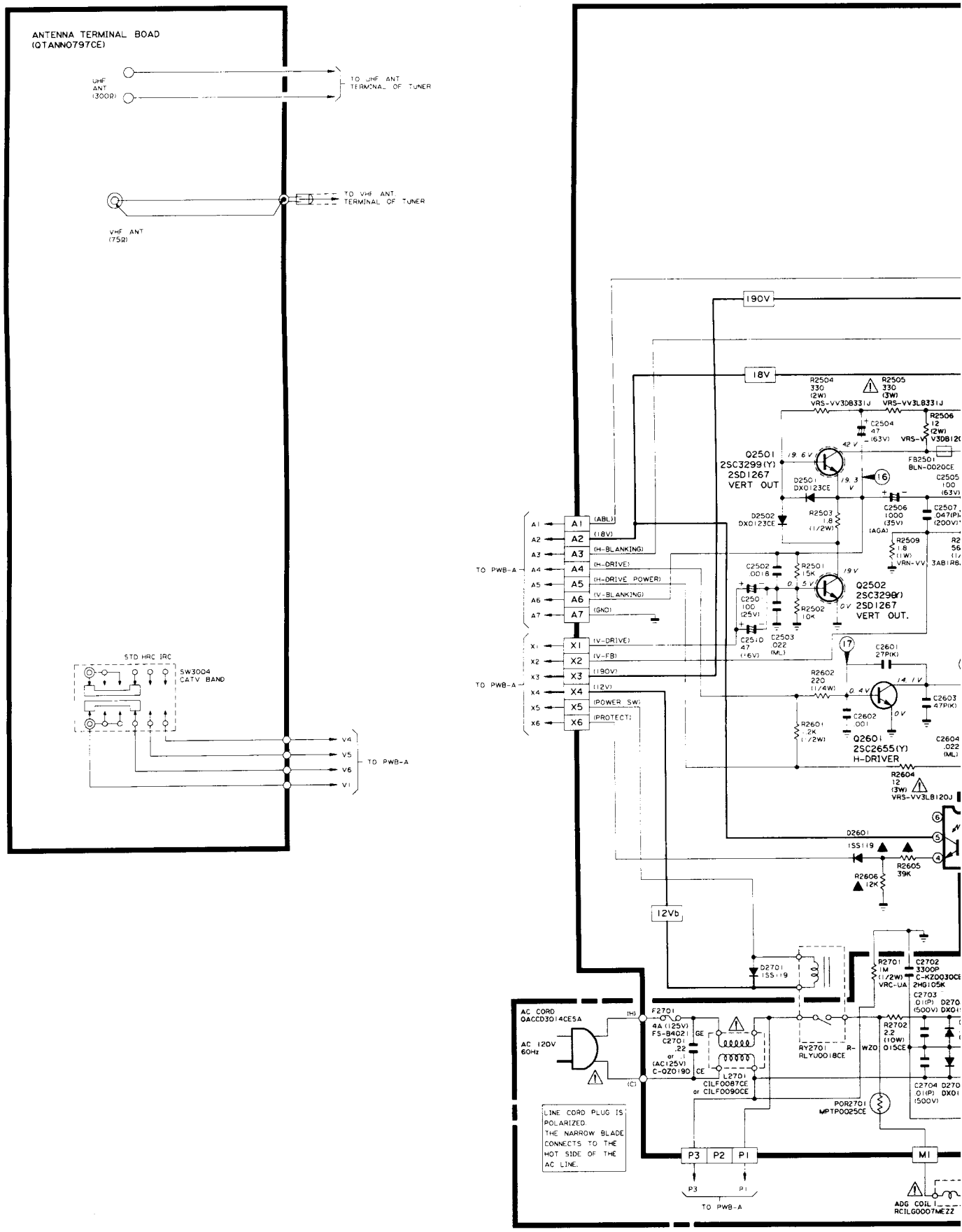

IC1101 IX0260CE
DECODER
18V
190V
12Vb
R1402 27K (2W) VRS-VV3DB273J
R1403 22K (2W) VRS-VV3DB223J
R1404 120 (1W) VRS-VV3AB121J
IC1401 VHIUPC1486C-1
VCFYHAIHA474J
Q1402 2SA1015(Y) SD SW
Q1401 2SC1815(Y) SD AMP
Q1303 2SC1815(Y) VOL.CONT.
E/TUNER VTU VT5-7UKPY
UHF ANT
VHF ANT
BU
BH
BL
VT
BM
AGC
IF
PB
PSC
OUT
PWB-A
(DUNTK4393DE00)
2/2
(18V)
(190V)
(POWER SW)
(H-PULSE)
(VIDEO)
(RF AGC)
(AFT)
(VOL)
(PIF)
(-2V)
(5-OUT POWER)

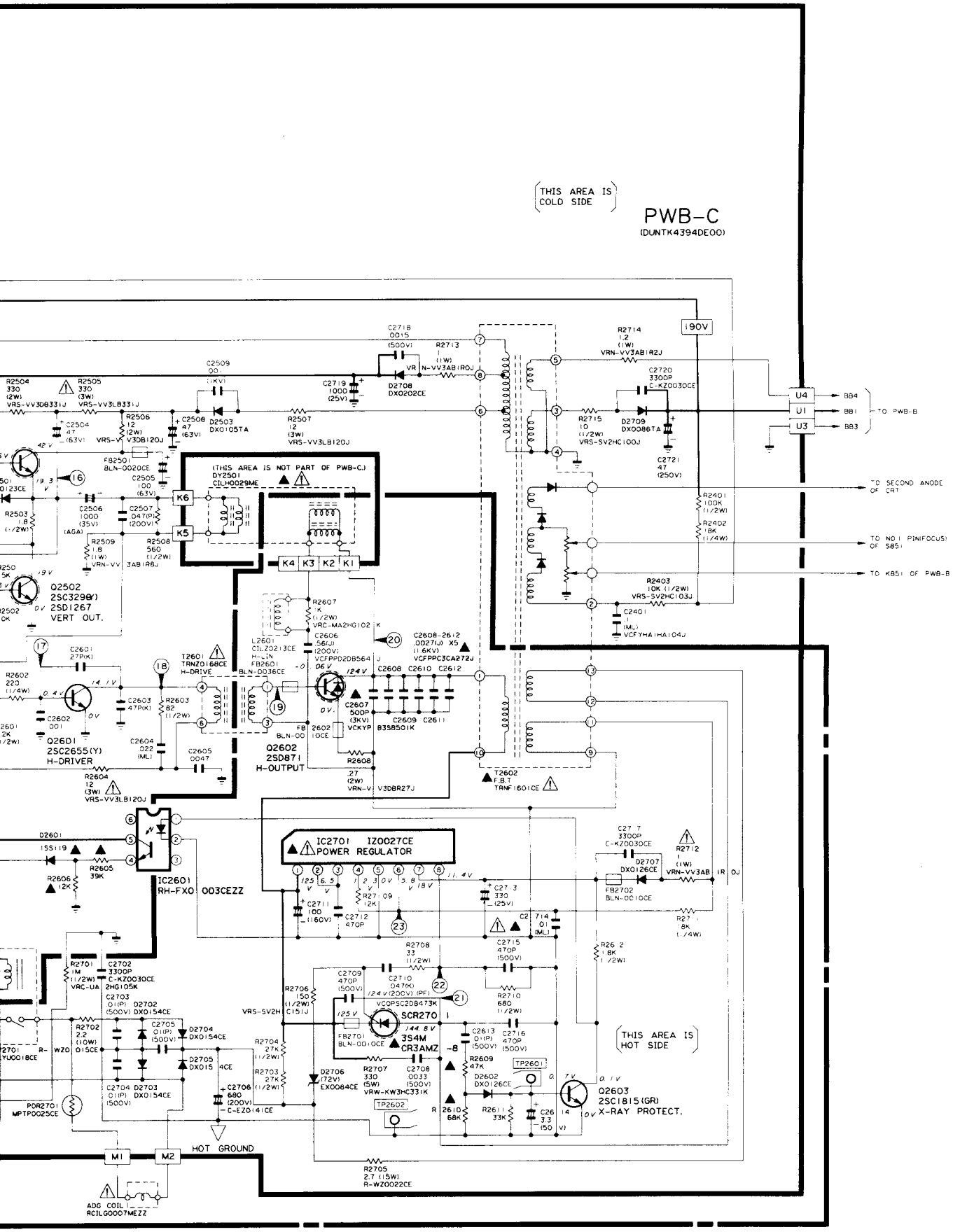
	7	8	9	10	11	12


PWB–A
(DUNTK4393DE00)
1/2
IC302
IX0054CE
Q201
2SC1906
PIF AMP
Q403
2SC1815(Y)
SWITCHING
IC801
IX0600CE
Q401
2SC1815(Y)
BUFFER
Q802
2SC18
BUFFER
Q402
2SC1815(Y)
VIDEO AMP
Q410
2SC1815(Y)
BUFFER
Q409
2SA1015(Y)
VIDEO AMP
Q408
2SA1015(Y)
BUFFER
SPEAKER 80
VSP0010P8758A
9V
12Va
12Vb
GND
VCC
SIF VCC
ATT.
AUDIO AMP
AGC
IF AMP
I/C DET
SIF AMP
FM DET
SIF LIM
AFT
AFT AMP
PIF DET.
RF AGC
IF AGC
VIDEO AMP
PRE DRIVER
DRIVER
BIAS
POWER OUT
FILTER
(S-OUT POWER)
(12Vb)
(P-IF)
(VOL)
(AFT)
(RF AGC)
(12Va)
(VIDEO)
(H-PULSE)
(POWER SW)
(190V)
(18V)


REPLACE WITH A PICTURE TUBE OF THE SAME TYPE NUMBER FOR CONTINUED SAFETY.
26.0KV(at 1550μA)
V101 CRT A63ABG25X A63AAM08X
PWB-B (DUNTK4294DEO)
Q851 2SC1514 RED OUTPUT
Q852 2SC1514 GREEN OUTPUT
Q853 2SC1514 BLUE OUTPUT
Q802 2SC1815(Y) BUFFER
Q701 2SC2236(Y) REGULATOR
Q407 2SA854(Q) 2SA562(T) VIDEO DRIVER
Q601 2SA1015(Y) H-START
Q501 2SC1959(Y) VERT DRIVER
Q408 2SA1015(Y) BUFFER
Q406 2SC1815(Y) 2SC454(C) A.B.L.
TO PWB-C
TO PWB-E
RF AGC
IF AGC
VIDEO AMP
BRIGHT
ACC
COLOR DEMOD
TINT
3.58M VCO
APC
KILLER
X-RAY PROTECT
PICTURE CONT.
1ST/2ND CHROMA AMP
VERT COUNT DOWN
HORIZ COUNT DOWN
HORIZ DRIVE
VERT DRIVE
SYNC SEP.
AFC
32FH VCO
18V
12Va
12Vb

	7	8	9	10	11	12

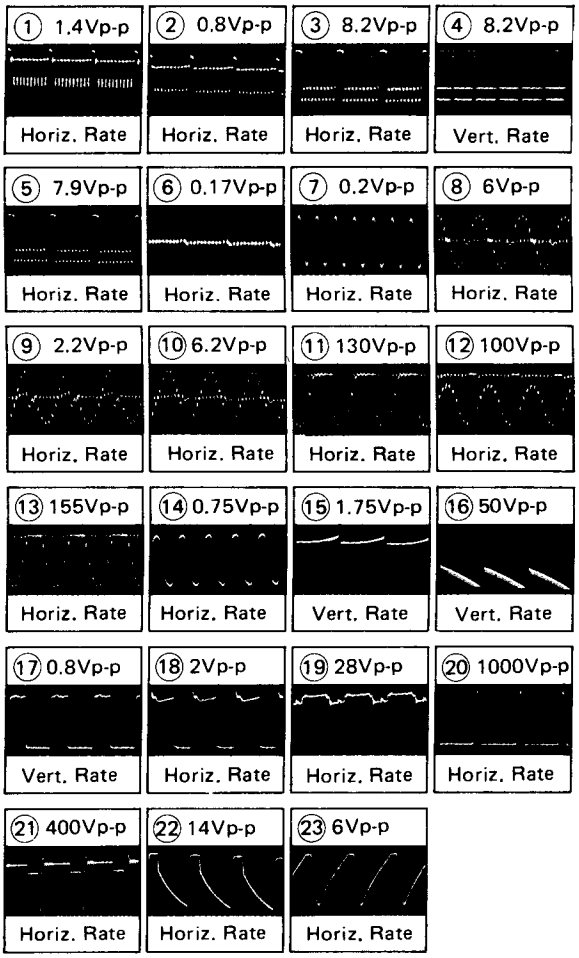

ANTENNA TERMINAL BOAD
(QTANNO797CE)
UHF ANT (300Ω)
TO UHF ANT TERMINAL OF TUNER
TO VHF ANT TERMINAL OF TUNER
VHF ANT (75Ω)
STD HRC IRC
SW3004 CATV BAND
V4
V5
V6
V1
TO PWB-A
190V
18V
12Vb
R2504 330 (2W) VRS-VV3DB331J
R2505 330 (3W) VRS-VV3LB331J
R2506 12 (2W) VRS-VV3DB120J
C2504 47 (63V)
Q2501 2SC3299(Y) 2SD1267 VERT OUT
FB2501 BLN-0020CE
D2501 DX0123CE
C2505 100 (63V)
C2506 1000 (35V) (AGA)
C2507 .047(P) (200V)
D2502 DX0123CE
R2503 1.8 (1/2W)
R2509 1.8 (1W) VRN-VV
C2502 0018
R2501 15K
Q2502 2SC3298(Y) 2SD1267 VERT OUT.
C2501 100 (25V)
C2510 47 (16V)
C2503 022 (ML)
R2502 10K
C2601 27P(K)
R2602 220 (1/4W)
C2603 47P(K)
C2602 001
R2601 2K (1/2W)
Q2601 2SC2655(Y) H-DRIVER
C2604 .022 (ML)
R2604 12 (3W) VRS-VV3LB120J
D2601 1SS119
R2605 39K
R2606 12K
A1 (ABL)
A2 (18V)
A3 (H-BLANKING)
A4 (H-DRIVE)
A5 (H-DRIVE POWER)
A6 (V-BLANKING)
A7 (GND)
X1 (V-DRIVE)
X2 (V-FB)
X3 (190V)
X4 (12V)
X5 (POWER SW)
X6 (PROTECT)
TO PWB-A
D2701 1SS119
R2701 1M (1/2W) VRC-UA
C2702 3300P C-KZ0030CE 2HG105K
C2703 01(P) (500V) DX01
R2702 2.2 (10W) 015CE
C2704 01(P) (500V) DX01
AC CORD QACCD3014CE5A
AC 120V 60Hz
F2701 4A (125V) FS-B4021
C2701 .22 or (AC125V) C-0Z0190
L2701 CILF0087CE or CILF0090CE
RY2701 RLYU0018CE
POR2701 MPTP0025CE
LINE CORD PLUG IS POLARIZED. THE NARROW BLADE CONNECTS TO THE HOT SIDE OF THE AC LINE.
P3 P2 P1
M1
ADG COIL RCILG0007MEZZ
TO PWB-A


THIS AREA IS COLD SIDE
PWB-C
(DUNTK4394DE00)
190V
C2718 0015 (500V)
R2713 1 (1W) N-VV3AB1R0J
C2719 1000 (25V)
D2708 DX0202CE
R2714 1.2 (1W) VRN-VV3AB1R2J
C2720 3300P C-KZ0030CE
D2709 DX0086TA
R2715 10 (1/2W) VRS-SV2HC100J
C2721 47 (250V)
U4
U1
U3
BB4
BB1
BB3
TO PWB-B
R2504 330 (2W) VRS-VV3D8331J
R2505 330 (3W) VRS-VV3LB331J
C2509 00 (1KV)
R2506 12 (2W) VRS-V V3DB120J
C2508 47 (63V)
D2503 DX0105TA
R2507 12 (3W) VRS-VV3LB120J
C2504 47 (63V)
F8250I BLN-0020CE
C2505 100 (63V)
C2506 1000 (35V)
C2507 047P(K) (200V)
R2503 1.8 (1/2W)
R2509 1.8 (1W) VRN-VV 3AB1R8J
R2508 560 (1/2W)
(THIS AREA IS NOT PART OF PWB-C.)
DY2501 CILH0029ME
K6
K5
K4 K3 K2 K1
TO SECOND ANODE OF CRT
R2401 100K (1/2W)
R2402 18K (1/4W)
TO NO.1 PIN(FOCUS) OF S851
TO K851 OF PWB-B
R2403 10K (1/2W) VRS-SV2HC103J
C2401 1 (ML) VCFYHA1HA104J
Q2502 2SC3298(Y) 2SD1267 VERT. OUT.
R2607 1K (1/2W) VRC-MA2HG102 K
L2601 CILZ0213CE H-LIN
C2606 561U (200V) VCFPPD2DB564 J
C2608-2612 0027(J) X5 (1.6KV) VCFPPC3CA272J
T2601 TRNZ0168CE H-DRIVE
FB2601 BLN-0036CE
C2608 C2610 C2612
C2607 500P (3KV) VCKYP B35B501K
C2609 C2611
C2603 47P(K)
R2603 82 (1/2W)
C2602 001
C2604 022 (ML)
C2605 0047
Q2601 2SC2655(Y) H-DRIVER
FB 2602 10CE BLN-00
Q2602 2SD871 H-OUTPUT
R2608 27 (2W) VRN-V V3DBR27J
R2604 12 (3W) VRS-VV3LB120J
T2602 F.B.T. TRNF1601CE
D2601 1SS119
R2605 39K
R2606 12K
IC2601 RH-FX0 003CEZZ
IC2701 IZ0027CE POWER REGULATOR
C27 7 3300P C-KZ0030CE
D2707 DX0126CE
FB2702 BLN-0010CE
R2712 1 (1W) VRN-VV3AB1R0J
C27 3 330 (25V)
C2711 100 (160V)
C2712 470P
R27 09 12K
C2714 01 (ML)
R27 1 8K (1/4W)
R26 2 1.8K (1/2W)
C2715 470P (500V)
R2708 33 (1/2W)
C2709 470P (500V)
C2710 047(K) (200V) (PF) VCQPSC2DB473K
R2710 680 (1/2W)
R2706 150 (1/2W) VRS-SV2H C151J
SCR2701 3S4M CR3AMZ
FB2701 BLN-0010CE
C2613 01(P) (500V)
C2716 470P (500V)
R2609 47K
TP2601
D2602 DX0126CE
R2610 68K
R2611 33K
C26 3.3 (50V)
Q2603 2SC1815(GR) X-RAY PROTECT.
THIS AREA IS HOT SIDE
R2704 27K (1/2W)
R2703 27K (1/2W)
D2706 (72V) EX0084CE
R2707 330 (5W) VRW-KW3HC331K
C2708 0033 (500V)
TP2602
R2705 2.7 (15W) R-WZ0022CE
R2701 1M (1/2W) VRC-UA
C2702 3300P C-KZ0030CE
2HG105K
C2703 01(P) (500V) D2702 DX0154CE
R2702 2.2 (10W) 015CE
C2705 01(P) (500V)
D2704 DX0154CE
D2705 DX015 4CE
C2704 D2703 01(P) DX0154CE (500V)
C2706 680 (200V) C-EZ0141CE
POR2701 MPTP0025CE
M1
M2
HOT GROUND
ADG COIL RCILG0007MEZZ

WAVEFORMS

WAVEFORM MEASUREMENT CONDITIONS:

1. *Photographs taken on a standard gated rainbow color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.*
2. ⊂► *indicates wave form check points (See chart, waveforms are measured from point indicated to chassis ground.)*



NOTE:

1. *The unit of resistance "ohm" is omitted (K: 1000 ohms M:1 Meg ohm).*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *All capacitors are μF, unless otherwise noted P:μμF.*
4. *(G) indicates ±2% tolerance may be used.*
5. ⏚ *indicates line isolated ground.*
6. ⏚ *indicates hot ground.*

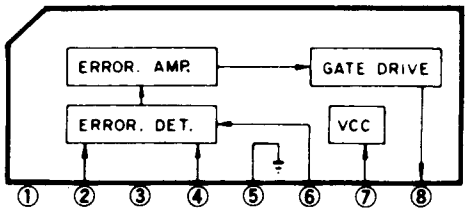
VOLTAGE MEASUREMENT CONDITIONS:

1. *All DC voltages are measured with VTVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.*
2. *All voltages measured with 1000μV B & W or color signal.*

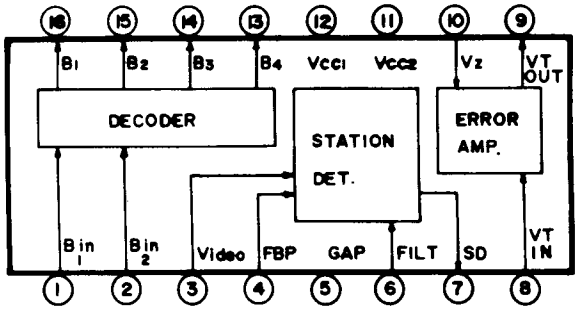
⚠ AND SHADED COMPONENTS = SAFETY RELATED PARTS, ▲ MARK = X-RAY RELATED PARTS.

This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

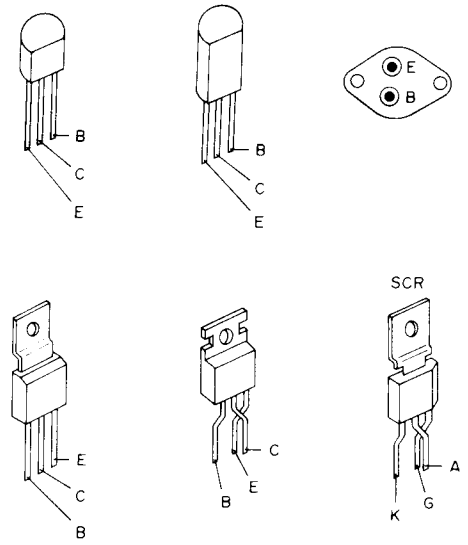
IC2701

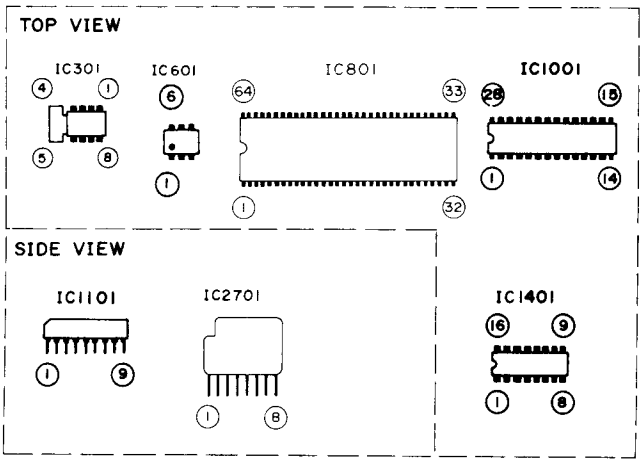


IC1401



SOLID STATE DEVICE BASE DIAGRAM





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